

## Development of Geotechnical Information Database-Computer Program to Expedite Soil Subgrade Survey Data to Designers

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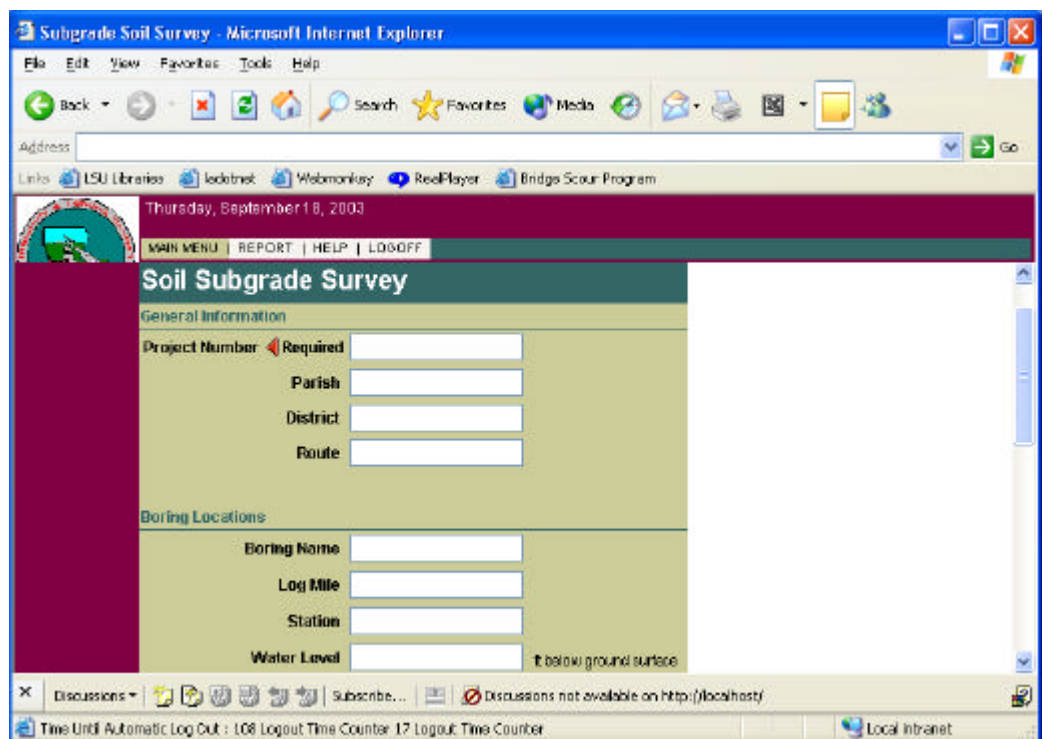
### Problem

Knowledge of existing soil conditions at proposed construction sites is necessary for proper design. Data collected include boring location, sample classification and depth, groundwater depth, and the results of laboratory testing. This information is presented in graphical form on a Soil Subgrade Survey (SSS) sheet.

Placing this information in the construction plans can result in cost sav-

ings by reducing construction related problems. Although LADOTD collects this valuable information in a timely manner, data is slow to reach designers due to the volume of data collected and a current presentation method that requires many hours of drafting. This valuable information is often missing from the plans due to this slow, tedious process.

Often, existing profile grades do not match future construction



Input screen for soil subgrade survey computer program



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grades. Trying to relate existing subgrade stratigraphy to future line and grade construction can complicate the design process. New computer software is needed to streamline the process and enhance design capabilities.

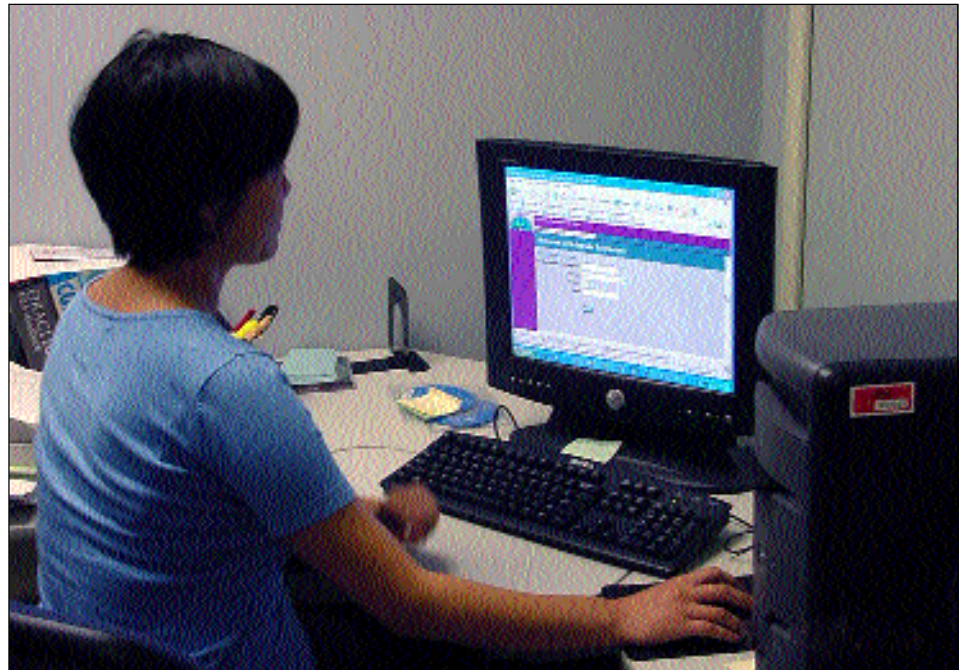
## Objective

The objective of this project is to create software that will 1) speed the reporting time of SSS data by automating the process and 2) provide a design tool relating current stratigraphy to future pavement line and grades.

## Description

The proposed computer program will shorten the reporting process by automatically compiling data and replacing hand-drawn diagrams with computer-generated tables. The program will be designed to allow compilation and formatting of data based on user needs and preferences. The program will also provide a simple user interface to allow interaction and selection of reporting criteria on a project need basis.

Data entry, analysis, and output will be consistent with the format of the existing LADOTD Material and Testing database (MaTT) system. Once the computer program is developed, data from the MaTT system can be downloaded for analysis without the need to re-enter any prior information. Conversely, data from the program may be uploaded for storage on the MaTT system, which will be



*Developing the geotechnical information database*

GPS-compatible for future use with the department's GIS databases.

Designers will be able to incorporate the data into project plans for use by construction personnel, laboratory engineers, field technicians, and contractors.

## Implementation Potential

Upon completion of this project, the developed computer program will be placed on the LADOTD server network for access by LADOTD personnel for implementation.